



NOAA Teacher at Sea
Brenton Burnett
Onboard NOAA Ship DAVID STARR JORDAN
June 26 – July 6, 2006

NOAA Teacher at Sea: Brenton Burnett

NOAA Ship DAVID STARR JORDAN

Mission: Shark Abundance Survey

Day 5: Friday, June 30, 2006

Weather Data from Bridge

Visibility: 10 nautical miles (nm)

Wind direction: 250 degrees

Wind speed: 9 kts

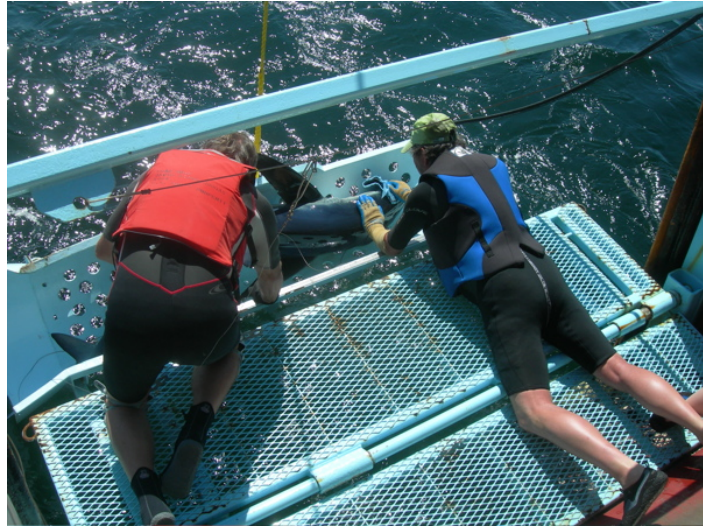
Sea wave height: <1

Swell wave height: 1-2'

Seawater temperature: 17.6
degrees C

Sea level pressure: 1015 mb

Cloud cover: Clear



Russ Vetter and Rand Rasmussen position a blue shark so they can measure its length and remove the hook.

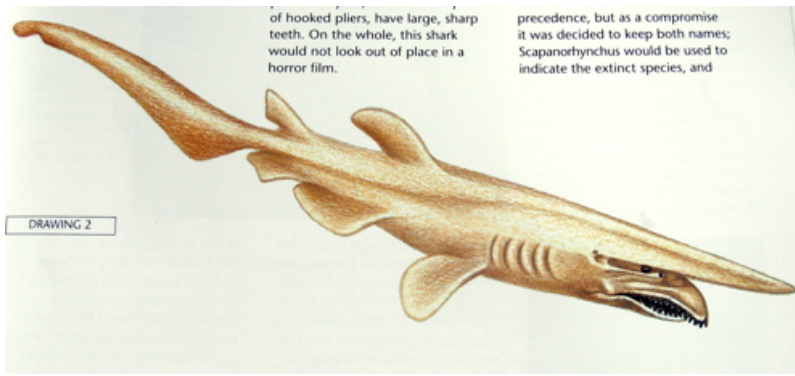
Science and Technology Log

Today was a slower day in terms of numbers of sharks—we only caught three. But the mood was good because each of the sharks caught was large enough to accommodate satellite tags. And, we caught one of each species of shark that we anticipate seeing—a blue, a thresher and a mako. The mako was particularly lively giving a good kick as it left the shark trough. Any of the sharks tagged on this trip, or others in the same effort, can be monitored at http://las.pfeg.noaa.gov/TOPP_recent. On this cruise we have attached SPOT tags to two makos (on Tuesday #60986 and today, #60998), a blue (#60989) and a thresher (#53797). Note: I'm told that all four of these MAY be listed as blues on the website until the website is fully updated, but the tracks of all four sharks should be viewable right now!

All sharks are in the phylum Chordata. They, along with rays and skates, and a strange and even more ancient group of fish called chimera, make up Class Chondrichthyes, which are the fish with skeletons made of cartilage. The only bony material in a shark is its teeth and for this reason very few shark fossils beyond teeth are found. The other classes of chordates are the jawless fishes (hagfish and lamprey), the bony fishes (minnows, mola, cod, seahorses, etc.), amphibians, reptiles, mammals and birds.

Each class is divided up into orders, and there are eight orders of sharks—

one order includes the sawsharks, another the whale shark and wobbegong, and another the angelsharks (which have some resemblance to rays). The frilled and cow sharks make up another order, the bullhead sharks another, and there is an order for the dogfish sharks (including the spiny dogfish which might be the most numerous of all shark species—closer to shore, we may hook one). All of these orders are sharks but when people think of sharks they typically envision either mackerel sharks, which include great whites, makos, tigers and threshers, or the ground sharks, which include leopard sharks, hammerheads and blue sharks.



The goblin shark—perhaps the ugliest shark ever!

The 16 species of mackerel sharks are among the most specialized of sharks. Many, like the mako, are swift swimmers. Threshers have a tail that is as long as the rest of their body is. It is believed that they use this tail to “corral” fish and then slap the fish to stun them. The goblin shark lives in the dark of

the deep and has a strange snout jaw structure that makes it arguably the ugliest shark. The first of these was caught in 1897 near Japan. A scientist there delivered it to Professor David Starr Jordan, for whom the National Oceanic and Atmospheric Administration ship we are on is named.

With over 200 species, the ground sharks are the most diverse and varied order of sharks. The blue shark is a generalist living in open waters in nearly all of the world’s oceans. Others, like the catsharks are benthic, or bottom-dwelling. Most are small and harmless but some are the largest of predatory sharks. All of them have what’s called a nictitating eyelid which covers the eyes to protect them as the shark bites.



The DAVID STARR JORDAN awaits the return of its Zodiac boat.

Personal Log

During today’s afternoon set, we inadvertently lost a buoy that was intended to be clipped to the longline. Fortunately, such a mishap is occasion to let loose

the ship's two engine Zodiac. Myself, Stephanie Snyder (an intern with NOAA), Miguel Olvera, and crewmembers Chico Gomez and David Gothan, set out to retrieve it. The buoy was dropped early in the set so we had to travel a couple miles out. On the way, we briefly saw four molas. Later a sea lion passed by.

An adventure here, an adventure there—the fifth day is as interesting as the first!
Brenton